Claims

1. A control cage for an abrasive blasting wheel, comprising:
a housing forming an interior chamber;
a blast media outlet positioned in the housing, and
a channel formed in an inner side of the housing.

2. The control cage of claim 1, wherein:
the channel further comprises a step on the inner side of the housing.

3. The control cage of claim 1, wherein:
the channel further comprises a ridge on the inner side of the housing.

4. The control cage of claim 1, wherein:
the housing has a first thickness in a portion that does not include the channel and a second thickness, less than the first thickness, in a portion that includes the channel.

5. The control cage of claim 1, wherein the channel is between about 0.0625 and about 0.25 inches deep.

6. The control cage of claim 5, wherein the channel is about 0.125 inches deep.

7. The control cage of claim 1, wherein the channel has a depth that varies across its width.

8. The control cage of claim 1, wherein the channel has a depth that varies along its length.

9. The control cage of claim 1, further comprising indicia to denote the position of the blast media outlet.

10. A distribution device for an abrasive blasting wheel, comprising:

an impeller having a media inlet at one end adapted to receive blast media and a plurality of impeller media outlets constructed and arranged to allow egress of the blast media upon rotation of the impeller;

a control cage surrounding the impeller and having a cage media outlet adapted for passage of the blast media; and

a channel formed between the impeller and the control cage.

11. The distribution device of claim 10, wherein:

the channel is formed on an inner side of the control cage.

12. The distribution device of claim 10, wherein:

the channel is formed on an outer side of the impeller.

13. The distribution device of claim 10, wherein:

the channel is formed on both an inner side of the control cage and an outer side of the impeller.

14. The distribution device of claim 10, wherein:

a distance between the impeller and a portion of the control cage that includes the cage media outlet is greater than a distance between the impeller and a portion of the control cage that does not include the cage media outlet.

15. The distribution device of claim 10, wherein the channel is between about 0.0625 and about 0.25 inches deep.

16. The distribution device of claim 15, wherein the channel is about 0.125 inches deep.

17. The distribution device of claim 10, wherein the channel has a depth that varies across its width.

18. The distribution device of claim 10, wherein the channel has a depth that varies along its length.

19. An abrasive blast wheel assembly, comprising:

a wheel having a face and an axis generally perpendicular to the face;

a plurality of vanes extending from the face of the wheel, each vane having a heel end towards the axis of the wheel and a discharge end opposite the heel end;

an impeller positioned about the axis of the wheel, the impeller having a media inlet at one end adapted to receive blast media and a plurality of impeller media outlets constructed and arranged to allow egress of blast media upon rotation of the impeller;

a control cage surrounding the impeller and having a cage media outlet adapted for passage of blast media to the heel ends of the vanes; and

a channel formed between the impeller and the control cage.

20. The abrasive blast wheel assembly of claim 19, wherein:

the channel is formed on an inner side of the control cage.

21. The abrasive blast wheel assembly of claim 19, wherein:

the channel is formed on an outer side of the impeller.

22. The abrasive blast wheel assembly of claim 19, wherein:

the channel is formed on both an inner side of the control cage and an outer side of the impeller.

23. The abrasive blast wheel assembly of claim 19, wherein the channel is between about 0.0625 and about 0.25 inches deep.

24. The abrasive blast wheel assembly of claim 23, wherein the channel is about 0.125 inches deep.

25. The abrasive blast wheel assembly of claim 19, wherein the channel has a depth that varies across its width.

26. The abrasive blast wheel assembly of claim 19, wherein the channel has a depth that varies along its length.

27. The abrasive blast wheel assembly of claim 19, wherein:

a distance between the impeller and a portion of the control cage that includes the cage media outlet is greater than a distance between the impeller and a portion of the control cage that does not include the cage media outlet.